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(ii) Not be added to any other equivalent dose to any extremity or skin for the year.

[58 FR 65485, Dec. 14, 1993, as amended at 72 FR 31926, June 8, 2007]

§ 835.206 Limits for the embryo/fetus.

(a) The equivalent dose limit for the embryo/fetus from the period of conception to birth, as a result of occupational exposure of a declared pregnant worker, is 0.5 rem (0.005 Sv).

(b) Substantial variation above a uniform exposure rate that would satisfy the limits provided in § 835.206(a) shall be avoided.

(c) If the equivalent dose to the embryo/fetus is determined to have already exceeded 0.5 rem (0.005 Sv) by the time a worker declares her pregnancy, the declared pregnant worker shall not be assigned to tasks where additional occupational exposure is likely during the remaining gestation period.

[58 FR 65485, Dec. 14, 1993, as amended at 72 FR 31926, June 8, 2007]

§ 835.207 Occupational dose limits for minors.

The dose limits for minors occupationally exposed to radiation and/or radioactive materials at a DOE activity are 0.1 rem (0.001 Sv) total effective dose in a year and 10 percent of the occupational dose limits specified at § 835.202(a)(3) and (a)(4).

[72 FR 31926, June 8, 2007]

§ 835.208 Limits for members of the public entering a controlled area.

The total effective dose limit for members of the public exposed to radiation and/or radioactive material during access to a controlled area is 0.1 rem (0.001 Sv) in a year.

[72 FR 31926, June 8, 2007]

§ 835.209 Concentrations of radioactive material in air.

(a) The derived air concentration (DAC) values given in appendices A and C of this part shall be used in the control of occupational exposures to airborne radioactive material.

(b) The estimation of internal dose shall be based on bioassay data rather than air concentration values unless bioassay data are:

- (1) Unavailable;
- (2) Inadequate; or
- (3) Internal dose estimates based on air concentration values are demonstrated to be as or more accurate.

[58 FR 65485, Dec. 14, 1993, as amended at 63 FR 59682, Nov. 4, 1998]

Subpart D [Reserved]

Subpart E—Monitoring of Individuals and Areas

§ 835.401 General requirements.

(a) Monitoring of individuals and areas shall be performed to:

- (1) Demonstrate compliance with the regulations in this part;
- (2) Document radiological conditions;
- (3) Detect changes in radiological conditions;
- (4) Detect the gradual buildup of radioactive material;
- (5) Verify the effectiveness of engineered and administrative controls in containing radioactive material and reducing radiation exposure; and
- (6) Identify and control potential sources of individual exposure to radiation and/or radioactive material.

(b) Instruments and equipment used for monitoring shall be:

- (1) Periodically maintained and calibrated on an established frequency;
- (2) Appropriate for the type(s), levels, and energies of the radiation(s) encountered;
- (3) Appropriate for existing environmental conditions; and
- (4) Routinely tested for operability.

[58 FR 65485, Dec. 14, 1993, as amended at 63 FR 59682, Nov. 4, 1998; 72 FR 31926, June 8, 2007]

§ 835.402 Individual monitoring.

(a) For the purpose of monitoring individual exposures to external radiation, personnel dosimeters shall be provided to and used by:

(1) Radiological workers who, under typical conditions, are likely to receive one or more of the following:

- (i) An effective dose of 0.1 rem (0.001 Sv) or more in a year;
- (ii) An equivalent dose to the skin or to any extremity of 5 rems (0.05 Sv) or more in a year;

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(iii) An equivalent dose to the lens of the eye of 1.5 rems (0.015 Sv) or more in a year;

(2) Declared pregnant workers who are likely to receive from external sources an equivalent dose to the embryo/fetus in excess of 10 percent of the applicable limit at § 835.206(a);

(3) Occupationally exposed minors likely to receive a dose in excess of 50 percent of the applicable limits at § 835.207 in a year from external sources;

(4) Members of the public entering a controlled area likely to receive a dose in excess of 50 percent of the limit at § 835.208 in a year from external sources; and

(5) Individuals entering a high or very high radiation area.

(b) External dose monitoring programs implemented to demonstrate compliance with § 835.402(a) shall be adequate to demonstrate compliance with the dose limits established in subpart C of this part and shall be:

(1) Accredited, or excepted from accreditation, in accordance with the DOE Laboratory Accreditation Program for Personnel Dosimetry; or

(2) Determined by the Secretarial Officer responsible for environment, safety and health matters to have performance substantially equivalent to that of programs accredited under the DOE Laboratory Accreditation Program for Personnel Dosimetry.

(c) For the purpose of monitoring individual exposures to internal radiation, internal dosimetry programs (including routine bioassay programs) shall be conducted for:

(1) Radiological workers who, under typical conditions, are likely to receive a committed effective dose of 0.1 rem (0.001 Sv) or more from all occupational radionuclide intakes in a year;

(2) Declared pregnant workers likely to receive an intake or intakes resulting in an equivalent dose to the embryo/fetus in excess of 10 percent of the limit stated at § 835.206(a);

(3) Occupationally exposed minors who are likely to receive a dose in excess of 50 percent of the applicable limit stated at § 835.207 from all radionuclide intakes in a year; or

(4) Members of the public entering a controlled area likely to receive a dose

in excess of 50 percent of the limit stated at § 835.208 from all radionuclide intakes in a year.

(d) Internal dose monitoring programs implemented to demonstrate compliance with § 835.402(c) shall be adequate to demonstrate compliance with the dose limits established in subpart C of this part and shall be:

(1) Accredited, or excepted from accreditation, in accordance with the DOE Laboratory Accreditation Program for Radiobioassay; or,

(2) Determined by the Secretarial Officer responsible for environment, safety and health matters to have performance substantially equivalent to that of programs accredited under the DOE Laboratory Accreditation Program for Radiobioassay.

[63 FR 59683, Nov. 4, 1998, as amended at 72 FR 31926, June 8, 2007]

§ 835.403 Air monitoring.

(a) Monitoring of airborne radioactivity shall be performed:

(1) Where an individual is likely to receive an exposure of 40 or more DAC-hours in a year; or

(2) As necessary to characterize the airborne radioactivity hazard where respiratory protective devices for protection against airborne radionuclides have been prescribed.

(b) Real-time air monitoring shall be performed as necessary to detect and provide warning of airborne radioactivity concentrations that warrant immediate action to terminate inhalation of airborne radioactive material.

[63 FR 59683, Nov. 4, 1998]

§ 835.404 [Reserved]

§ 835.405 Receipt of packages containing radioactive material.

(a) If packages containing quantities of radioactive material in excess of a Type A quantity (as defined at 10 CFR 71.4) are expected to be received from radioactive material transportation, arrangements shall be made to either:

(1) Take possession of the package when the carrier offers it for delivery; or

(2) Receive notification as soon as practicable after arrival of the package at the carrier's terminal and to take